AMENDMENTS TO THE CLAIMS

1-133. (Canceled)

134. (Currently amended) ~~The sensor of claim 124,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile force is exerted by the foreign body capsule toward the sensing region, wherein the body comprises a first surface on which the sensing region is located and a second surface, and wherein said first surface comprises anchoring material thereon for supporting tissue ingrowth and wherein said second surface is located opposite said first surface, and wherein said second surface is substantially smooth and comprises a biocompatible material that is non-adhesive to tissues.

135. (Currently amended) The sensor of claim 134, wherein said second surface is curved.

136-146. (Canceled)

147. (Currently amended) ~~The sensor of claim 124,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile force is exerted by the foreign body capsule toward the sensing region, and wherein the body comprises a first major surface on which said sensing region is located and a second major surface, wherein the first major surface has edges between which a width of the first major surface can be measured, and wherein the sensing region is spaced away from the edges by a distance that is at least about 10% of the width of the first major surface.

148. (Previously presented)The sensor of 147, wherein the sensing region is spaced away from the edges by a distance that is at least about 15% of the width of the first major surface.

149. (Previously presented)The sensor of claim 147, wherein the sensing region is spaced away from the edges by a distance that is at least about 20% of the width of the first major surface.

150. (Previously presented) The sensor of claim 147, wherein the sensing region is spaced away from the edges by a distance that is at least about 25% of the width of the first major surface.

151. (Previously presented) The sensor of claim 147, wherein the sensing region is spaced away from the edges by a distance that is at least about 30% of the width of the first major surface.

152. (Previously presented) The sensor of claim 147, wherein the spacing of the sensing region from the edges is true for at least two width measurements, which measurements are taken generally transverse to each other.

153. (Currently amended) ~~The sensor of claim 142,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile force is exerted by the foreign body capsule toward the sensing region, wherein the sensor comprises a major surface and wherein said curved portion is located on at least a portion of the major surface, and wherein the body comprises a first major surface on which said sensing region is located and a second major surface, wherein the first major surface is at least slightly convex.

154. (Previously presented)The sensor of claim 153, wherein a reference plane may be defined that touches the first major surface at a point spaced in from edges of the first major surface, and is generally parallel to the first major surface, and is spaced away from opposite

edges of the first major surface due to convexity of the first major surface, and wherein a location of an edge is the point at which a congruent line or a normal line is angled 45 degrees with respect to the reference plane.

155. (Previously presented) The sensor of claim 154, wherein the reference plane is spaced from the edges a distance that is at least about 3% from the edges, and not more than 50% of the width.

156. (Previously presented) The sensor of claim 154, wherein the reference plane is spaced from the edges a distance that is at least about 3% from the edges, and not more than 25% of the width.

157. (Previously presented) The sensor of claim 154, wherein the reference plane is spaced from the edges a distance that is at least about 3% from the edges, and not more than 15% of the width.

158. (Canceled)

159. (Currently amended) ~~The sensor of claim 124,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile force is exerted by the foreign body capsule toward the sensing region, and wherein the body defines a surface area, and wherein between 10 % and 100% of the surface area is convexly curved.

160. (Currently amended) ~~The sensor of claim 124,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile

force is exerted by the foreign body capsule toward the sensing region; and wherein the body defines a surface area, and wherein a substantial portion of the surface area is convexly curved.

161. (Currently amended) ~~The sensor of claim 124,~~ An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a sensor body comprising a sensing region adapted for transport of an analyte thereto, and a porous biointerface material that covers at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a curved portion of the body such that when a foreign body capsule forms around the sensor, a contractile force is exerted by the foreign body capsule toward the sensing region, and wherein the body defines a surface area, and where at least about 90 % of the surface area is convexly curved.

162-168. (Canceled)

169. (Previously presented) An implantable sensor adapted to measure a concentration of an analyte in a bodily fluid, comprising:

a body having a first major surface and, opposite thereto, a second major surface, wherein the first major surface is generally planar, slightly convex, and has rounded edges, with an electrochemical sensing region located on the first major surface that is spaced away from the rounded edges and a porous biointerface material covering at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the first major surface is sufficiently convex that when a foreign body capsule forms around the sensor, contractile forces are exerted thereby generally uniformly towards the sensing region.

170. (Previously presented)An implantable sensor for use in measuring a concentration of an analyte in a bodily fluid, the sensor comprising:

a body, the body comprising a sensing region adapted for transport of analytes thereto, and a porous biointerface material covering at least a portion of the sensing region, wherein the porous biointerface material covering the portion of the sensing region supports tissue ingrowth, wherein the sensing region is located on a major surface of the

body, wherein said major surface comprises a continuous curvature substantially across the entire surface of the body, and wherein a thermoset plastic material substantially encapsulates the body outside the sensing region.

171-173. (Canceled)

174. (New) The sensor of claim 134, wherein the sensor is a subcutaneous sensor.

175. (New) The sensor of claim 134, wherein the sensor is configured for implantation in a soft tissue of a body.

176. (New) The sensor of claim 134, wherein the sensor is a glucose sensor.

177. (New) The sensor of claim 134, further comprising a mechanical anchoring mechanism formed on the body.

178. (New) The sensor of claim 177, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

179. (New) The sensor of claim 134, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

180. (New) The sensor of claim 134, wherein said first surface, when viewed from a direction perpendicular to a center of said first surface, has a substantially rectangular profile with rounded corners.

181. (New) The sensor of claim 134, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

182. (New) The sensor of claim 134, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

183. (New) The sensor of claim 182, wherein the body comprises a plastic.

184. (New) The sensor of claim 183, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

185. (New) The sensor of claim 184, wherein the thermoset plastic is an epoxy.

186. (New) The sensor of claim 134, wherein the sensing region is situated approximately at an apex of a surface of the body.

187. (New) The sensor of claim 134, wherein the body is substantially cylindrical.

188. (New) The sensor of claim 187, wherein a radius of curvature of the body is less than about 2 mm.

189. (New) The sensor of claim 134, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

190. (New) The sensor of claim 189, wherein the porous biointerface material is formed on the electronics body.

191. (New) The sensor body of claim 190, wherein the electronics body is substantially cylindrical.

192. (New) The sensor of claim 147, wherein the sensor is a subcutaneous sensor.

193. (New) The sensor of claim 147, wherein the sensor is configured for implantation in a soft tissue of a body.

194. (New) The sensor of claim 147, wherein the sensor is a glucose sensor.

195. (New) The sensor of claim 147, further comprising a mechanical anchoring mechanism formed on the body.

196. (New) The sensor of claim 195, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

197. (New) The sensor of claim 147, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

198. (New) The sensor of claim 147, wherein said first major surface, when viewed from a direction perpendicular to a center of said first major surface, has a substantially rectangular profile with rounded corners.

199. (New) The sensor of claim 147, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

200. (New) The sensor of claim 147, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

201. (New) The sensor of claim 200, wherein the body comprises a plastic.

202. (New) The sensor of claim 201, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

203. (New) The sensor of claim 202, wherein the thermoset plastic is an epoxy.

204. (New) The sensor of claim 147, wherein the sensing region is situated approximately at an apex of a surface of the body.

205. (New) The sensor of claim 147, wherein the body is substantially cylindrical.

206. (New) The sensor of claim 205, wherein a radius of curvature of the body is less than about 2 mm.

207. (New) The sensor of claim 147, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

208. (New) The sensor of claim 207, wherein the porous biointerface material is formed on the electronics body.

209. (New) The sensor body of claim 208, wherein the electronics body is substantially cylindrical.

210. (New) The sensor of claim 153, wherein the sensor is a subcutaneous sensor.

211. (New) The sensor of claim 153, wherein the sensor is configured for implantation in a soft tissue of a body.

212. (New) The sensor of claim 153, wherein the sensor is a glucose sensor.

213. (New) The sensor of claim 153, further comprising a mechanical anchoring mechanism formed on the body.

214. (New) The sensor of claim 213, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

215. (New) The sensor of claim 153, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

216. (New) The sensor of claim 153, wherein said first major surface, when viewed from a direction perpendicular to a center of said first major surface, has a substantially rectangular profile with rounded corners.

217. (New) The sensor of claim 153, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

218. (New) The sensor of claim 153, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

219. (New) The sensor of claim 218, wherein the body comprises a plastic.

220. (New) The sensor of claim 219, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

221. (New) The sensor of claim 220, wherein the thermoset plastic is an epoxy.

222. (New) The sensor of claim 153, wherein the sensing region is situated approximately at an apex of a surface of the body.

223. (New) The sensor of claim 153, wherein the body is substantially cylindrical.

224. (New) The sensor of claim 223, wherein a radius of curvature of the body is less than about 2 mm.

225. (New) The sensor of claim 153, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

226. (New) The sensor of claim 225, wherein the porous biointerface material is formed on the electronics body.

227. (New) The sensor body of claim 226, wherein the electronics body is substantially cylindrical.

228. (New) The sensor of claim 159, wherein the sensor is a subcutaneous sensor.

229. (New) The sensor of claim 159, wherein the sensor is configured for implantation in a soft tissue of a body.

230. (New) The sensor of claim 159, wherein the sensor is a glucose sensor.

231. (New) The sensor of claim 159, further comprising a mechanical anchoring mechanism formed on the body.

232. (New) The sensor of claim 231, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

233. (New) The sensor of claim 159, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

234. (New) The sensor of claim 159, wherein the body comprises a first surface and a second surface, and wherein said first surface, when viewed from a direction perpendicular to a center of said first surface, has a substantially rectangular profile with rounded corners.

235. (New) The sensor of claim 159, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

236. (New) The sensor of claim 159, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

237. (New) The sensor of claim 236, wherein the body comprises a plastic.

238. (New) The sensor of claim 237, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

239. (New) The sensor of claim 238 wherein the thermoset plastic is an epoxy.

240. (New) The sensor of claim 159, wherein the sensing region is situated approximately at an apex of a surface of the body.

241. (New) The sensor of claim 159, wherein the body is substantially cylindrical.

242. (New) The sensor of claim 241, wherein a radius of curvature of the body is less than about 2 mm.

243. (New) The sensor of claim 159, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

244. (New) The sensor of claim 243, wherein the porous biointerface material is formed on the electronics body.

245. (New) The sensor body of claim 244, wherein the electronics body is substantially cylindrical.

246. (New) The sensor of claim 160, wherein the sensor is a subcutaneous sensor.

247. (New) The sensor of claim 160, wherein the sensor is configured for implantation in a soft tissue of a body.

248. (New) The sensor of claim 160, wherein the sensor is a glucose sensor.

249. (New) The sensor of claim 160, further comprising a mechanical anchoring mechanism formed on the body.

250. (New) The sensor of claim 249, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

251. (New) The sensor of claim 160, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

252. (New) The sensor of claim 160, wherein the body comprises a first surface and a second surface, and wherein said first surface, when viewed from a direction perpendicular to a center of said first surface, has a substantially rectangular profile with rounded corners.

253. (New) The sensor of claim 160, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

254. (New) The sensor of claim 160, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

255. (New) The sensor of claim 254, wherein the body comprises a plastic.

256. (New) The sensor of claim 255, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

257. (New) The sensor of claim 256, wherein the thermoset plastic is an epoxy.

258. (New) The sensor of claim 160, wherein the sensing region is situated approximately at an apex of a surface of the body.

259. (New) The sensor of claim 160, wherein the body is substantially cylindrical.

260. (New) The sensor of claim 259, wherein a radius of curvature of the body is less than about 2 mm.

261. (New) The sensor of claim 160, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

262. (New) The sensor of claim 261, wherein the porous biointerface material is formed on the electronics body.

263. (New) The sensor body of claim 262, wherein the electronics body is substantially cylindrical.

264. (New) The sensor of claim 161, wherein the sensor is a subcutaneous sensor.

265. (New) The sensor of claim 161, wherein the sensor is configured for implantation in a soft tissue of a body.

266. (New) The sensor of claim 161, wherein the sensor is a glucose sensor.

267. (New) The sensor of claim 161, further comprising a mechanical anchoring mechanism formed on the body.

268. (New) The sensor of claim 267, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

269. (New) The sensor of claim 161, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

270. (New) The sensor of claim 161, wherein the body comprises a first surface and a second surface, and wherein said first surface, when viewed from a direction perpendicular to a center of said first surface, has a substantially rectangular profile with rounded corners.

271. (New) The sensor of claim 161, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

272. (New) The sensor of claim 161, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

273. (New) The sensor of claim 272, wherein the body comprises a plastic.

274. (New) The sensor of claim 273, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

275. (New) The sensor of claim 274, wherein the thermoset plastic is an epoxy.

276. (New) The sensor of claim 161, wherein the sensing region is situated approximately at an apex of a surface of the body.

277. (New) The sensor of claim 161, wherein the body is substantially cylindrical.

278. (New) The sensor of claim 277, wherein a radius of curvature of the body is less than about 2 mm.

279. (New) The sensor of claim 161, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

280. (New) The sensor of claim 279, wherein the porous biointerface material is formed on the electronics body.

281. (New) The sensor body of claim 280, wherein the electronics body is substantially cylindrical.

282. (New) The sensor of claim 169, wherein the sensor is a subcutaneous sensor.

283. (New) The sensor of claim 169, wherein the sensor is configured for implantation in a soft tissue of a body.

284. (New) The sensor of claim 169, wherein the sensor is a glucose sensor.

285. (New) The sensor of claim 169, further comprising a mechanical anchoring mechanism formed on the body.

286. (New) The sensor of claim 285, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

287. (New) The sensor of claim 169, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

288. (New) The sensor of claim 169, wherein said first major surface, when viewed from a direction perpendicular to a center of said first major surface, has a substantially rectangular profile with rounded corners.

289. (New) The sensor of claim 169, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

290. (New) The sensor of claim 169, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

291. (New) The sensor of claim 290, wherein the body comprises a plastic.

292. (New) The sensor of claim 291, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

293. (New) The sensor of claim 292, wherein the thermoset plastic is an epoxy.

294. (New) The sensor of claim 169, wherein the sensing region is situated approximately at an apex of a surface of the body.

295. (New) The sensor of claim 169, wherein the body is substantially cylindrical.

296. (New) The sensor of claim 295, wherein a radius of curvature of the body is less than about 2 mm.

297. (New) The sensor of claim 169, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

298. (New) The sensor of claim 297, wherein the porous biointerface material is formed on the electronics body.

299. (New) The sensor body of claim 298, wherein the electronics body is substantially cylindrical.

300. (New) The sensor of claim 170, wherein the sensor is a subcutaneous sensor.

301. (New) The sensor of claim 170, wherein the sensor is configured for implantation in a soft tissue of a body.

302. (New) The sensor of claim 170, wherein the sensor is a glucose sensor.

303. (New) The sensor of claim 170, further comprising a mechanical anchoring mechanism formed on the body.

304. (New) The sensor of claim 303, wherein the mechanical anchoring mechanism is selected from the group consisting of prongs, spines, barbs, wings, hooks, a helical surface topography, and a gradually changing diameter.

305. (New) The sensor of claim 170, wherein the biointerface material comprises interconnected cavities dimensioned and arranged to create contractile forces that counteract a generally uniform downward fibrous tissue contracture caused by the foreign body capsule *in vivo* and thereby interfere with formation of occlusive cells.

306. (New) The sensor of claim 170, wherein said major surface, when viewed from a direction perpendicular to a center of said major surface, has a substantially rectangular profile with rounded corners.

307. (New) The sensor of claim 170, wherein porous biointerface material is selected from the group consisting of polyester, polypropylene cloth, polytetrafluoroethylene felts, expanded polytetrafluoroethylene, and porous silicone.

308. (New) The sensor of claim 170, wherein the body comprises at least one of metal, ceramic, plastic, and glass.

309. (New) The sensor of claim 308, wherein the body comprises a plastic.

310. (New) The sensor of claim 309, wherein the plastic is selected from the group consisting of thermoplastic and thermoset plastic.

311. (New) The sensor of claim 310, wherein the thermoset plastic is an epoxy.

312. (New) The sensor of claim 170, wherein the sensing region is situated approximately at an apex of a surface of the body.

313. (New) The sensor of claim 170, wherein the body is substantially cylindrical.

314. (New) The sensor of claim 313, wherein a radius of curvature of the body is less than about 2 mm.

315. (New) The sensor of claim 170, wherein the body comprises a sensing body and an electronics body, and wherein the sensing body is tethered to the electronics body.

316. (New) The sensor of claim 315, wherein the porous biointerface material is formed on the electronics body.

317. (New) The sensor body of claim 316, wherein the electronics body is substantially cylindrical.